

REMARKS

Claims 1-18 are pending.

Claims 1-18 are rejected.

Claim 1 and 15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama et al (U.S. Patent No. 5,194,743 in view of Vogtmann et al (U.S. Patent No. 6,131,589).

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The specification is amended to correct the relationship of numbers to figures.

The abstract is amended to eliminate the word "means."

Drawings

Applicant hereby submits replacement drawings Fig.'s 1 and 2 to correct the spelling of "PRIOR ART".

Claim Rejections – 35 USC § 112

Claim 1 and 15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The "sensor" in line 12 of claim 1 does refer back to the "sensor" in line 8 of claim 1. The sensor detects the position of the wafer by detecting the state of the fluid. If the wafer is normally positioned, the sensor will detect a normal state in the fluid. If the wafer is mislocated, broken or held off the chuck plate by particulate matter, the sensor will detect a state of fluid different than a normal state.

In claim 15 on line 9, "the sensing means" is amended to recite "the sensor."

Claim Rejections – 35 USC § 103

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama et al (U.S. Patent No. 5,194,743) in view of Vogtmann et al (U.S. Patent No. 6,131,589).

With regards to claims 1, 8, 9, 13, 15, and 18, the Examiner has stated that Aoyama et al discloses all of the features of the present invention except for the use of a pressure sensor. Applicant disagrees for the following reason.

Aoyama et al teaches the use of holes in a chuck plate specifically as a vacuum device for holding the wafer only (column 1, lines 62-66; column 7, lines 51-61). Aoyama et al also teaches the use of optical sensors as the only means for detecting the position of a wafer on a chuck plate (column 8, lines 34-38; column 8, lines 66-68 through column 9, line 1; column 9, line 9-15; FIGS. 2, 12 and 15). Aoyama et al fails to disclose not only the pressure sensor, but also an output device for outputting signals, a controller for receiving signals from the pressure sensor and a method, from claim 15, of “checking a contact state and position of the wafer on the chuck plate according to whether a measure value is within a predetermined range to control fluid flow through the valve.”

With regards to claims 1, 8, 9, 13, 15, and 18, the Examiner has also stated that a pressure sensor is taught by Vogtmann et al. Applicant disagrees that teaching a pressure sensor on water lines renders the present invention obvious for the following reason.

Vogtmann et al teaches using water nozzles with a pressure sensor to levitate a wafer off of a surface. (column 6, lines 16-39) Levitating a wafer with water is a different endeavor from detecting correct positioning and intimate contact of a wafer to a chuck plate. Vogtmann et al teaches the use of water nozzles to merely detect the presence of a wafer over the three nozzles (column 6, lines 31-36; column 9, lines 4-8; column 10, lines 51-61). Vogtmann et al does not teach using a pressure sensor to detect the *position* of a wafer once a wafer is placed on the cushion of water. Furthermore, Vogtmann et al fails to teach a controller for receiving signals from a pressure sensor and an output device for outputting signals from the controller. Vogtmann et al also fails to teach a method of checking a contact state *and* position of the wafer.

With regards to claims 1, 8, 9, 13, 15, and 18, the Examiner has also stated that it would have been obvious to one having ordinary skill in the art at the time the present invention was made to include in Aoyama et al a pressure sensor as taught by Vogtmann et al. However, the combination fails to show how to detect the contact state and *position* of a wafer on a chuck plate by use of a pressure sensor. Aoyama et al only detects position of a wafer through use of optical sensors and does not teach detecting broken, cracked or detached

wafers (column 8, lines 34-38). And, Vogtmann et al only detects the presence of a wafer on jets of water and does not teach detecting the position of a wafer nor any controller or output devices. (column 6, lines 31-36).

With regards to claims 2-7, 10-12, 14, and 16-17 they should be allowable for at least the reasons given above with respect to claims 1, 8, 9, 13, 15, and 18.

For the foregoing reasons, reconsideration and allowance of claims 1-18 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.


Customer No.

20575

PATENT TRADEMARK OFFICE

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



Alan T. McCollom

Reg. No. 28,881

MARGER JOHNSON & McCOLLOM
1030 SW Morrison Street
Portland, OR 97205
(503) 222-3613